

SOV/24-58-4-24/39

Extraction of Germanium from Coal by  $\gamma$ -irradiation in Carbon Tetrachloride

$10^8$  roentgens. With  $10^6$  and  $10^7$  roentgens the amount of germanium extracted is smaller. The percentage extracted also depends on the moisture content. When undried carbon tetrachloride was used 40.3% germanium was recovered instead of 100% and if undried coal was also used, the recovery fell to 9.3%. It was noted that after irradiation, carbon tetrachloride could dissolve more coal. There are 2 tables and 8 references, 6 of which are Soviet, 1 English and 1 German.

SUBMITTED: January 13, 1958

Card 2/2

LOSEV, Boris Ivanovich; KOMSKIY, Mikhail Solomonovich; TROYANSKAYA,  
Mar'yana Aleksandrovna; LOSEV, I.P., doktor tekhn.nauk,  
zasluzhennyy deyatel nauki i tekhniki RSFSR, otv.red.;  
BANKVITSER, A.L., red.izd-va; KUZ'MIN, I.F., tekhn.red.

[Solidified motor fuel] Otverzhdennoe motornoe toplivo.  
Moskva, Izd-vo Akad.nauk SSSR, 1959. 213 p. (MIRA 12:12)  
(Motor fuels)

LOSEV, Boris Ivanovich; KOMSKIY, Mikhail Solomonovich; ~~TROYANSKAYA,~~  
Mar'yana Aleksandrovna; ~~YENISHERLOVA,~~ O.M., vedushchiy red.;  
~~MUKHINA, E.A.,~~ tekhn.red.

[Solid gasoline; transportation, storage, and use] Tverdyi  
benzin; transport, khranenie i primeneniye. Moskva, Gos.nauchno-  
tekhn.izd-vo nef. i gorno-toplivnoi lit-ry, 1959. 38 p.  
(MIRA 12:11)

(Gasoline, Solid)

LOSEV, Boris Ivanovich; KOMSKIY, Mikhail Solomonovich; TROYANSKAYA,  
Mar'yana Alekseyevna; YENISHCHIKOVA, O.M., vedushchiy red.;  
MUKHINA, E.A., tekhn.red.

[Solid gasoline; transportation, storage, and use] Tverdyi  
benzin; transport, khranenie i primeneniye. Moskva, Gos.nauchno-  
tekhn.izd-vo neft. i gorno-toplivnoi lit-ry, 1959. 88 p.  
(MIRA 12:12)

(Gasoline, Solid)

5 (4)

AUTHORS: Losev, B. I., Troyanskaya, M. A., Bylyna, E. A. SCV/20-125.1-35/67

TITLE: The Formation of Hexachloro Ethane Due to  $\gamma$ -irradiation of Carbon Tetrachloride (Obrazovaniye geksakhloretana pri  $\gamma$ -obluchenii chetyrekhkhlorigistogo ugleroda)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 125, Nr 1, pp 133 .. 134 (USSR)

ABSTRACT: The authors studied the products resulting from the chlorination of coal which were formed in carbon tetrachloride due to  $\gamma$ -irradiation of mineral coals. The production of samples is outlined.  $\text{Co}^{60}$  with a capacity of 21,000 gram-equivalents of radium served as  $\gamma$ -source. The irradiation was performed with dose rates of  $3.5 \cdot 10^6$  and  $1.15 \cdot 10^6$  r/hour. In all cases the total dose amounted to  $10^8$  r. The coal was then separated from  $\text{CCl}_4$  and further investigated. The carbon tetrachloride, which after irradiation with coal assumes a dark reddish brown coloration, was distilled; the fractions  $76.5^\circ - 78^\circ$ ,  $78^\circ - 80^\circ$  and  $80^\circ - 90^\circ$  as well as a thick resin-like residue were thus ob-

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The Formation of Hexachloro Ethane Due to -irradiation of Carbon Tetrachloride

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tained; with further increase in temperature a white, crystalline, pungent substance was sublimed out of the above-mentioned residue. The same white substance was sublimed out of the aforementioned fractions. In water it is insoluble, but dissolves readily in acetone, benzene, and carbon tetrachloride: its melting point is  $183.5 - 184^{\circ}\text{C}$ , and its weight  $M = 236.76$ . This substance is assumed to be hexachloro ethane. In various experiments hexachloro ethane was synthesized in a quantity of 1,000 molecules per 100 eV. This value indicates a chain-like nature of the reaction, and may be explained by the following scheme (Ref 5):  $\text{CCl}_4 \xrightarrow{\gamma} \text{CCl}_3^{\bullet} + \text{Cl}^{\bullet}$ ,  $\text{CCl}_4 + \text{Cl}^{\bullet} \rightarrow \text{CCl}_3^{\bullet} + \text{Cl}_2$ ,  $\text{CCl}_4 + \text{CCl}_3^{\bullet} \rightarrow \text{C}_2\text{Cl}_6 + \text{Cl}^{\bullet}$ ,  $2\text{CCl}_3^{\bullet} \rightarrow \text{C}_2\text{Cl}_6$ . The authors thank A. Kh. Breger for his interest and help in this investigation. There are 8 references, 5 of which are Soviet.

ASSOCIATION: Institut goruchikh iskopayemykh Akademii nauk SSSR (Institute of Mineral Fuels of the Academy of Sciences USSR)

PRESENTED: November 25, 1958, by A. V. Topchiyev, Academician

SUBMITTED: November 25, 1958

Card 2/2

LOSEV, B.I.; TROYANSKAYA, M.A.; BYLYNA, E.A.

Formation of hexachloroethane during  $\gamma$ -irradiation of carbon tetrachloride. Dokl. AN SSSR 125 no.1:133-134 Mr-Apr '59.  
(MIRA 12:4)

1. Institut goryuchikh iskopayemykh AN SSSR. Predstavleno akademikom A.V. Topchiyevym.  
(Ethane) (Carbon tetrachloride) (Gamma rays)

SIMONENKO, L.L.; ROZENBERG, A.M.; RYASNYANSKIY, B.A.; SOKOV, N.A.;  
TOL'SKAYA, S.Ye.; TROYANSKIY, A.M.; TSUKANOV, P.P., kandidat  
tekhnicheskikh nauk, redaktor; VERINA, G.P., tekhnicheskij  
redaktor

[The Donets railway's advanced method of track maintenance]  
Peredovye metody truda puteitsev Donetskoi dorogi. Moskva, Gos.  
transp.zhel-dor.izd-vo, 1956. 110 p. (MIRA 9:8)  
(Railroads--Track)



TROYANSKIY, M.P., polkovnik meditsinskoy sluzhby

Using an unrefined No.16 preparation for treating dysentery. Voen.-  
med.zhur. no.3:70-71 Mr '56. (MLRA 9:9)

(ANTIBIOTICS) (DYSENTERY)

TROYANSKIY, M. P.

Experience With the Use of Native Preparation No. 16 for  
Treatment of Dysentery Patients.

Voyenno-meditsinskiy zhurnal, No. 3, March 1956

YUNUSOV, F.S.; TROYANSKIY, N.S.

Grinding shaped surfaces on the LSh-1A machine tools. Trudy KAI  
no.70:144-158 '62. (MIRA 18:4)

ZHADIN, G.P., dotsent, kand.tekhn.nauk; TROYANSKIY, N.S., starshiy prepodavatel';  
YUNUSOV, F.S., kand.tekhn.nauk

Calculating the angle of shift of a machined part for a line  
for the LSh-1 machine tools. Izv.vys.ucheb.zav.; mashinostr.  
no.9:136-171 '60. (MIRA 13:11)

1. Kazanskiy aviatsionnyy institut.  
(Metal cutting)

YUNUSOV, F.S.; TROYANSKIY, U.S.

Kinematics of abrasive granular in line grinding. Trudy KAI no. 84:130-  
142 '64. (MIRA 18:10)

YUNUSOV, F.S.; TROYANSKIY, N.S.

Theoretical investigation of metal chip thickness in grinding a  
flat surface by the longitudinal line method. Trudy KAI no.74:  
50-57 '63. (MIRA 17:2)

YUNUSOV, F.S., kand.tekhn.nauk, dotsent; TROYANSKIY, N.S., starshiy prepodavatel'

Effect of contact pressure in machining on special-purpose band-  
grinding machines. Izv.vys.ucheb.zav.; mashinostr. no.6:172-181  
'63. (MIRA 16:10)

1. Kazanskiy aviatsionnyy institut.

YUNUSOV, F.S., kand.tekhn.nauk, dotsent; TROYANSKIY, N.S., starshiy  
prepodavatel'

Calculating dimensions of the operating and follow-up rollers of  
the Ish-1 machine tools. Izv.vys.ucheb.zav.; mashinostr. no.6:102-  
111 '62. (MIRA 15:11)

1, Kazanskiy aviatsionnyy institut.  
(Grinding machines)



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S/145/60/000/009/014/01'  
D221/D304

1-1100

AUTHORS: Zhadin, G.P., Candidate of Technical Sciences, Docent.  
Troyanskiy, N.S., Senior Instructor and Yunusov, F.S.,  
Candidate of Technical Sciences

TITLE: Calculation of angle of rotation of the workpiece in  
a pass for machine tools, type M-1 (LSH-1)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Mashino-  
stroeniye. no. 9, 1960, 136 - 141

TEXT: When machining of non-circular surfaces by longitudinal  
passes, feed is ensured either by parallel motion to one of the  
axes of coordinates, or by rotation around the axis of holder. In  
the first arrangement, machining is based on the composition of  
three simultaneous elementary motions. One determines the speed of  
machining, the second - the feed, and the third forms the tracer  
feed which is determined by the template. Each of these motions is  
simple in itself, whereas the resulting displacement is involved.  
These machine tools are usually provided with a constant feed per

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D221/D304

Calculation of angle of ...

pass which reduces their efficiency, but allows, however, the use of one template (cam) only. The maximum angle of rise in the profile of workpiece is taken as a base to ensure machining within the allowed limit. Similarly, in the case of machines with rotary feed (Fig. 2), the magnitude of angle  $\alpha$  of rotation around axis of holder should be set over the most distant part of the surface. The template is placed on the common horizontal axis 2 to ensure the production of specified form of the workpiece 1. The former is in permanent contact with tracer follower, and executes together with it a reciprocating motion. To determine  $\alpha$  it is necessary to have two positions of cutting tool at a distance which would ensure that roughness between passes would not exceed the allowance  $\delta$ . The author then gives a mathematical analysis which results in a graph relating  $\alpha$  and the diameter of tool  $d$ , radius of rotation  $\rho$  and  $\delta$ . Consequently, when the latter quantities are specified, it is possible to determine the angle of rotation per pass  $\alpha$ , when machining discrepancies will not exceed the allowed limit. The choice of two extreme sections is due to the usual specification of calculated sections for involved surfaces, such as gas turbine

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D221/D304

blades etc. The most advantageous position of the axis of rotation of holder (or component) is determined by tracing through three maximum distant profiles of the workpiece  $M_1$ ,  $M_2$  and  $M_3$  (Fig. 5) a circle with radius  $\rho$  and coordinates of its center  $O_1 - x_0$  and  $y_0$ . A set of equations determines these quantities. A numerical example follows the above. Calculations for a slightly twisted surface indicate a marked difference in the angle  $\alpha$  which increases with very twisted shapes. This is exemplified by existing machines, where this angle is less than  $6^\circ$ . There are 5 figures and 1 table.

ASSOCIATION: Kazanskiy aviatsionnyy institut (Kazan Aviation Institute)

SUBMITTED: April 12, 1960

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TRUYANSKIY P.

28(2)

PHASE I BOOK EXPLOITATION

SOV/2712

Akademiya nauk SSSR

Perevodnaya mashina P.P. Troyanskogo; sbornik materialov o perevodnoy mashine dlya perevoda s odnogo yazyka na drugiye, predlozhennoy P.P. Troyanskim v.1933 g. (P.P. Troyanskiy's Translation Machine; Collection of Materials on a Translation Machine for Translating One Language Into Others, Proposed by P.P. Troyanskiy in 1933) Moscow, Izd-vo AN SSSR, 1959. 52 p. 2,000 copies printed.

Ed.: D.Yu. Panov; Ed. of Publishing House: K.P. Gurov; Tech. Ed.: S.G. Markovich.

PURPOSE: This book is intended for readers interested in problems of machine translation.

COVERAGE: This publication describes the work of the late P.P. Troyanskiy, who invented an automatic translation machine in the early 1930's. The volume contains two articles taken from Troyanskiy's manuscripts and comments on these by members of a commission set up by the Presidium of the Academy of Sciences of the USSR in 1957 to study his work. The first

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P.P. Troyanskiy's Translation Machine (Cont.)

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article deals with the linguistic principles of automatic translation, and comments are presented by I.K. Bel'skaya. The second article describes the technical characteristics of a translating machine. The official patent specifications for the machine are reproduced. Comments on the technical aspects are presented by D.Yu. Panov and L.N. Korolev. There are no references.

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P.P. Smirnov-Troyanskiy. On a Translation Machine Constructed on the Basis of Monolingual Linguistic Translation Methodology

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Comments (I.K. Bel'skaya)

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P.P. Troyanskiy's Translation Machine (Cont.)

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II. TECHNICAL MATERIAL

P. Troyanskiy. Machine for Automatic Translation and Printing of Texts Requiring Only Final Editing and Made From One Language Simultaneously Into a Number of Other Languages

35

Description of a Machine for Selecting and Printing Words in Translating One Language Into Another. Author's Certificate of Invention, Issued September 5, 1933

39

Comments (L.N. Korolev and D.Yu. Panov)

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AVAILABLE: Library of Congress

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IS/mg  
12-31-59

SMIRNOV-TROYANSKIY, P.P.; TROYANSKIY, Petr Petrovich [deceased]; BEL'SKAYA, I.K.; KOROLEV, L.N.; PANOV, D.Yu.; GUROV, K.P., red.izd-va; MARKOVICH, S.G., tekhn.red.

[P.P.Troianskii's translating machine; a collection of papers on a translating machine, proposed by P.P.Troianskii in 1933, for translating from one language to another] Perevodnaya mashina P.P.Troianskogo; sbornik materialov o perevodnoi mashine dlia perevoda s odnogo iazyka na drugie, predlozhennoi P.P. Troianskim v 1933 g. Moskva, Izd-vo Akad.nauk SSSR, 1959. 50 p.

(MIRA 12:7)

1. Akademiya nauk SSSR.  
(Translating machines)

Troyanskiy, S. V. Dr. Geolog.-Mineralog. Sci.

Dissertation: "Fundamentals of Mining Hydrogeology."  
Moscow Geological - Prospecting Inst. imeni S. Ordzhonikidze,  
26 Mar 47

SO: Vechernyaya Moskva, Mar. 1947 (Proj. #17836)



TROYANSKIY, S.V., prof., doktor geol.mineral.nauk.

Laws of underground water flow and drainage of flooded mineral  
deposits. Nauch.trudy MGI no.13/14:237-243 '54. (MIRA 10:10)  
(Water, Underground)  
(Mine drainage)

ABRAMOV, Sergey Kuz'mich; TROYANSKIY, S.V., otv.red.; RATNIKOVA, A.P.,  
red.izd-va; ALADOVA, Ye.I., tekhn.red.

[Hydrogeological calculation of vertical drains for the  
drainage of coal deposits] Gidrogeologicheskie raschety  
vertikal'nykh drenazhei pri osushenii ugol'nykh mestorozh-  
denii. Moskva, Ugletekhizdat, 1955. 241 p. (MIRA 12:7)  
(Mine drainage)

TROYANSKIY, S.V., professor, doktor geologo-mineralogicheskikh nauk.

Classification of mineral ore deposits according to flooding conditions. Nauch. trudy MGI no.16:211-222 '55 [cover '56].

(Ore deposits)

(Hydrology)

(MLBA 10:4)

TROYANSKIY, S.V.

Hydrogeological characteristics of Central Kazakhstan and possible  
sources of underground water for agricultural water supply. Sov.  
geol. no.44:12-20 '55. (MLRA 8:11)  
(Kazakhstan--Water supply) (Kazakhstan--Water, Underground)

1. V. Troitskiy, A. M. Iosadskiy, I. I. Chokin.

Gidropedologiya i Osnovniye Voprosy Razvitiya i Oshchegeniya  
(Hydrogeology and Drainage in Mineral Resources Deposits, 13)

L. V. Troitskiy, A. M. Iosadskiy, I. I. Chokin.  
Moskva, Giletsk'izdat, 1956.

306 i. Illus., Diagrams, Tables, Tables.

"Literature": 1. "2".

*700 YAN'SKIY, S.V.*

ABRAMOV, S.K., kand.tekhn.nauk; AVERSHIN, S.G., prof., doktor tekhn.nauk;  
 AMMOSEV, I.I., doktor geol.-min.nauk; ANDRIYEVSKIY, V.D., inzh.;  
 ANTROPOV, A.N., inzh.; APANAS'YEV, B.L., inzh.; BERGMAN, Ya.V.,  
 inzh.; BLOKHA, Ye.Ye., inzh.; BOGACHEVA, Ye.M., inzh.; BUKRINSKIY, V.A.,  
 kand.tekhn.nauk; VASIL'YEV, P.V., doktor geol.-min.nauk; VINOGRADOV,  
 B.G., inzh.; GOLUBEV, S.A., inzh.; GORDIYENKO, P.D., inzh.; GUSEV, N.A.,  
 kand.tekhn.nauk; DOROKHIN, I.V., kand.geol.-min.nauk; KALMYKOV, G.S.,  
 inzh.; KASATOCHKIN, V.I., doktor khim.nauk; KOROLEV, I.V., inzh.;  
 KOSTLIVTSEV, A.A., inzh.; KRATKOVSKIY, L.F., inzh.; KRASHENINNIKOV, G.F.,  
 prof. doktor geol.-min.nauk; KRIKUNOV, L.A., inzh.; LEVIT, D.Ye., inzh.;  
 LISITSA, I.G., kand.tekhn.nauk; LUSHNIKOV, V.A., inzh.; MATVEYEV, A.K.,  
 dots., kand.geol.-min.nauk; MEPURISHVILI, G.Ye., inzh.; MIRONOV, K.V.,  
 inzh.; MOLCHANOV, I.I., inzh.; NAUMOVA, S.N., starshiy nauchnyy sotrudnik;  
 NEKIPPELOV, V.Ye., inzh.; PAVLOV, F.F., doktor tekhn.nauk; PANYUKOV, P.N.,  
 doktor geol.-min.nauk; POPOV, V.S., inzh.; PYATLIN, M.P., kand.tekhn.  
 nauk; RASHKOVSKIY, Ya.E., inzh.; ROMANOV, V.A., prof., doktor tekhn.  
 nauk; RYZHOV, P.A., prof., doktor tekhn.nauk; SEL'YATITSKIY, G.A., inzh.;  
 SPERANSKIY, M.A., inzh.; TERENT'YEV, Ye.V., inzh.; TITOV, N.G., doktor  
 khim.nauk; GOKAREV, I.F., inzh.; TROYANSKIY, S.V., prof., doktor geol.-  
 min.nauk; FEDOROV, B.D., dots., kand.tekhn.nauk; FEDOROV, V.S., inzh.  
 [deceased]; KHOMENTOVSKIY, A.S., prof., doktor geol.-min.nauk; TROYANOV-  
 SKIY, S.V., otvetstvennyy red.; TERPIGOREV, A.M., red.; KRIKUNOV, L.A.,  
 red.; KUZNETSOV, I.A., red.; MIRONOV, K.V., red.; AVERSHIN, S.G., red.;  
 BURTSEV, M.P., red.; VASIL'YEV, P.V., red.; MOLCHANOV, I.I., red.;  
 RYZHOV, P.A., red.; BALANDIN, V.V., inzh., red.; BLOKH, I.M., kand.  
 tekhn.nauk, red.; BUKRINSKIY, V.A., kand.tekhn.nauk, red.; VOLKOV, K.Yu.,  
 inzh., red.; VOROB'YEV, A.A., inzh., red.; ZVONAREV, K.A., prof. doktor  
 tekhn.nauk, red.

(Continued on next card)

ABRAMOV, S.K.--- (continued) Card 2.

ZDANOVICH, V.G., prof., doktor tekhn.nauk, red.; IVANOV, G.A., doktor geol.-min.nauk, red.; KARAVAYEV, N.M., red.; KOROTKOV, G.V., kand.geol.-min.nauk, red.; KOROTKOV, M.V., kand.tekhn.nauk, red.; MAKKAVEYEV, A.A., doktor geol.-min.nauk, red.; OMEL'CHENKO, A.N., kand.tekhn.nauk, red.; SENDERZON, E.M., kand.geol.-min.nauk, red.; USHAKOV, I.N., dots., kand.tekhn.nauk, red.; YABLOKOV, V.S., kand.geol.-min.nauk, red.; KOROLEVA, T.I., red.izd-va; KACHAIKINA, Z.I., red.izd-va; PROZOROVSKAYA, F.L., tekhn.red.; NADEINSKAYA, A.A., tekhn.red.

[Mining; an encyclopedic handbook] Gornoe delo; entsiklopedicheskiy apravochnik. Glav. red. A.M.Terpigorev. Moskva, Gos.nauchno-tekhn. izd-vo lit-ry po ugol'noi promyshl. Vol.2. [Geology of coal deposits and surveying] Geologiya ugol'nykh mestorozhdenii i marksheiderskoe delo. Redkolegiya tova S.V.Troianskiy. 1957. 646 p. (MIRA 11:5)

1. Chlen-korrespondent AN SSSR (for Karavayev)  
(Coal geology---Dictionaries)

BEYLINA, TS.O., inzhener; BLAGONADEZHDIN, V.Ye., inzhener; BOGUSLAVSKIY, P.Ye., kandidat tekhnicheskikh nauk; VORONKOV, I.M., professor, GITINA, L.Ya., inzhener; GROMAN, M.B., inzhener; GOROKHOV, N.V., doktor tekhnicheskikh nauk [deceased]; DENISYUK, I.K., kandidat tekhnicheskikh nauk; DOVZHIK, S.A., kandidat tekhnicheskikh nauk; DUKEL'SKIY, M.P., professor, doktor khimicheskikh nauk [deceased]; DYKHOVICHNYY, A.I., professor; ZHITKOV, D.G., professor, doktor tekhnicheskikh nauk; KOZLOVSKIY, N.S., inzhener; LAKHTIN, Yu.M., doktor tekhnicheskikh nauk; LEVENSON, L.B., professor, doktor tekhnicheskikh nauk [deceased]; LEVIN, B.Z., inzhener; LIPKAN, V.F., inzhener; MARTYNOV, M.V., kandidat tekhnicheskikh nauk; MOLEVA, T.I., inzhener; NOVIKOV, F.S., kandidat tekhnicheskikh nauk; OSETSKIY, V.M., kandidat tekhnicheskikh nauk; OSTROUMOV, G.A.; PONOMARENKO, Yu.F., kandidat tekhnicheskikh nauk; RAKOVSKIY, V.S., kandidat tekhnicheskikh nauk; REGIRER, Z.L., inzhener; SOKOLOV, A.N., inzhener; SOSUNOV, G.I., kandidat tekhnicheskikh nauk; STEPANOV, V.N., professor; SHEMAKHANOV, M.M., kandidat tekhnicheskikh nauk; EL'KIND, I.A., inzhener; YANUSHEVICH, L.V., kandidat tekhnicheskikh nauk; BOKSHITSKIY, Ya.M., inzhener, redaktor; BULATOV, S.B., inzhener, redaktor; GASHINSKIY, A.G., inzhener, redaktor; GRIGORO'YEV, V.S., inzhener, redaktor; YEGURNOV, G.P., kandidat tekhnicheskikh nauk, redaktor; ZHARKOV, D.V., dotsent, redaktor; ZAKHAROV, Yu.G., kandidat tekhnicheskikh nauk, redaktor; KAMINSKIY, V.S., kandidat tekhnicheskikh nauk, redaktor; KOMARKOV, Ye.F., professor, redaktor; KOSTYLEV, B.N., inzhener, redaktor; POVAROV, L.S., kandidat tekhnicheskikh nauk, redaktor; ULINICH, F.R., redaktor; KLORIK'YAN, S.Kh., otvetstvennyy redaktor; GLADILIN, L.V., redaktor;

(Continued on next card)



BEYLINA, TS.O. --- (continued) Card 2.

RUPPENYEY, K.V., redaktor; TERPIGOREV, A.M., glavnyy redaktor;  
BARABANOV, F.A., redaktor; BARANOV, A.I., redaktor; BUCHTEV, V.E.,  
redaktor; GRAFOV, L.Ye., redaktor; DOKUKIN, A.V., redaktor; ZADEMID-  
KO, A.N., redaktor; ZASYAD'KO, A.F., redaktor; KRASNIKOVSKIY, G.V.  
redaktor; LETOV, N.A., redaktor; DISHIN, G.L., redaktor; MAN'KOV-  
SKIY, G.I., redaktor; MEL'NIKOV, N.V., redaktor; ONIKA, D.G.,  
redaktor; OSTROVSKIY, S.B., redaktor; POKROVSKIY, N.M., redaktor;  
POLSTYANOV, G.N., redaktor; SKOCHINSKIY, A.A., redaktor; SONIN,  
S.D., redaktor; SPIVAKOVSKIY, A.O., redaktor; STANCHENKO, I.K.,  
redaktor; SUDOPLATOV, A.P., redaktor; TOPCHIYEV, A.V., redaktor;  
TROYANSKIY, S.V., redaktor; SHEVYAKOV, L.D., redaktor; BYKHOV-  
SKAYA, S.N., redaktor izdatel'stva; ZAZUL'SKAYA, V.F., tekhnicheskiy  
redaktor; PROZOROVSKAYA, V.L., tekhnicheskii redaktor.

[Mining; an encyclopedic handbook] Gornoe delo; entsiklopedicheskiy  
spravochnik. Glav.red. A.M. Terpigorev. Chleny glav.red. F.A. Bara-  
banov i dr. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po ugol'noi  
promyshl. Vol.1. [General engineering] Obshchie inzhenernye  
svedeniya. Redkollegiya toma S.Kh.Klorik'ian i dr. 1957. 760 p.  
(Mining engineering) (MLRA 10:10)

TROYANSKIY, S.V., prof.doktor.geol.-mineral.nauk

Methods of determining the general inflow of mine waters. Nauch.  
trudy MGI no.18:225-236 '57. (MIRA 11:9)  
(Mine water)

SMIRNOV, V.G.; TROYANSKIY, S.V., prof.; FISENKO, N. Ye.

Gas producer drainage in the Dnieper Lignite Basin by means of  
inclined level drains. Podzem. gaz. ugl. no. 2:64-67 '58.  
(MIRA 11:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut Podzemgaz.  
(Dnieper Basin—Lignite)  
(Mine drainage)

TROYANOVSKIY, S.V., prof., doktor geol.-mineral.nauk

Underground water inrush in mines. Nauch.dokl.vys.shkoly; gor.delo.  
no.4:7-10 ' 58. (MIRA 12:1)

1. Predstavleno kafedroy geologii Moskovskogo gornogo instituta imeni  
I.V. Stalina.

(Mine water)

TROYANSKIY, S.V., prof.; TROYANSKIY, V.S.; FISENKO, N.Ye.

Maximum possible drainage of water-bearing sands overlying horizontal coal strata. Podzem. gaz. ugl. no.4:64-66 '58. (MIRA 11:12)

1. Moskovskiy gornyy institut, Vsesoyuznyy nauchno-issledovatel'skiy ugol'nyy institut i Vsesoyuznyy nauchno-issledovatel'skiy institut Podzemgaz.

(Mine drainage) (Coal gasification, Underground)

TROYANSKIY, S.V., prof. doktor geolog-mineralogicheskikh nauk

Trends in research work in geology at the Moscow Mining Academy  
and Mining Institute; 40th anniversary of the institutions.  
Nauch. trudy MGI no.28:7-11 '59. (MIRA 14:3)  
(Geological research)

TROYANSKIY, S.V., prof., doktor geologo-mineralogicheskikh nauk

Great precision in understanding the radius of influence in deriving Dupuit's formula. Nauch. trudy MGI no.28:143-145 '59.

(MIRA 14:3)

(Mine drainage)

TROYANSKIY, Sergey Vasil'yevich, prof.; BELITSKIY, Aron Samoylovich;  
CHEKIN, Arkadiy Ivanovich; SYROVATKO, M.V., otv.red.;  
SLAVOROSOV, A.Kh., red.izd-vz; BERESLAVSKAYA, L.Sh., tekhn.red.

[General and mining hydrogeology] Obshchaya i gornorudnichnaya  
gidrogeologiya. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po gornomu  
delu, 1960. 391 p. (MIRA 14:1)  
(Water, Underground) (Mine water)



TROYANSKIY, Sergey Vasil'yevich, prof.; VASIL'YEV, Sergey Petrovich, dots.;  
BOGACHEVA, Yevgeniya Nikolayevna; PERFIL'YEVA, Zoya Georgiyevna,  
inzh.; GUSEL'NIKOV, I.I., dots., otv. red.; SLOVOROSOV, A.Kh.,  
red. izd-va; BOLDYREVA, Z.A., tekhn. red.

[Geology and prospecting of coal deposits and fundamentals of  
general geology and hydrogeology] Geologiya i razvedka ugol'-  
nykh mestorozhdenii s osnovami obshchei geologii i gidrogeologii.  
By S.V.Troianskii i dr. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry  
po gornomu delu, 1961. 319 p. (MIRA 14:11)  
(Mine surveying) (Coal—Geology)

TROYANOVSKIY, V., inzh.

Route locating device. Radio no. 143-44. Ja '65.

(MIA 13.4)

ACCESSION NR: AT4018973

S/3064/63/000/004/0003/0013

AUTHOR: Troyanskly, V. B.; Shikhov, S. B.

TITLE: The physical design of atomic reactors by diffusion multigroup approximation

SOURCE: Moscow. Inzh.-fiz. Institut. Nekotoryye voprosy\* Inzhenernoy fiziki (Some problems in engineering physics), no. 4, 1963, 3-13

TOPIC TAGS: atomic reactor, reactor design, diffusion multigroup approximation, atomic reactor design

ABSTRACT: Using the general kinetic equation of neutron transfer in a fission spectrum source medium, two equations of diffusion approximation are evolved. These equations are then simplified. It is shown that the design of the critical size of the reactor and reflector in an age diffusion approximation is possible only after passing to the multigroup equation system. The entire interval of lethargy variation is divided into  $m$  groups, and equations are noted for groups with index  $i$ . The analysis includes a method of design of spectra simultaneously with calculation of diffusion coefficient efficiency. Orig. art. has: 31 equations.

ASSOCIATION: Inzh.-fiz. Institut, Moscow (Engineering Physics Institute)

Card ~~1/2~~

TROYANSKIY, V.B.; SHIKHOV, S.B.

Physical reactor calculations in diffusion multigroup approximation.  
Nek. vop. inzh. fiz. no.4:3-13 '63. (MIRA 16:8)  
(Nuclear reactors)

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S/869/62/000/000/005/012  
B102/B186

21.1000

AUTHORS: Shikhov, S. B., Troyanekiy, V. B.

TITLE: An effective two-group method of calculating intermediate-thermal reactors

SOURCE: Teoriya i metody rascheta yadernykh reaktorov; sbornik statey. Ed. by G. I. Marchuk. Moscow. Gosatomizdat, 1962, 86 - 90

TEXT: Critical-mass calculations in one-group approximation with averaging of the constants yield good results only when no boundary effects arise (Ref. 1: Atomnaya energiya, 8, 3, 1960). Since this is not the case with intermediate systems, the authors develop a two-group method for use together with averaging of the constants as described in Ref. 1. The spatial multi-group problem is reduced to a two-group problem in the following way: The m-group system of equations that describes the interaction between neutrons and medium in the fast and intermediate regions, given in diffusion multigroup approximation, is solved as in Ref. 1. From this an expression for  $k_{eff}$  is obtained which is compared with  $k_{eff}$  calculated in

Card 1/2

An effective two-group...

S/869/62/000/000/005/012  
B102/B186

two-group approximation for a non-reflected reactor. Hence the two-group constants are obtained. This system of constants for the epithermal region is related to the spectrum of neutron importance. The constants are averaged for systems with and without reflector and the constants of the reflector are determined by comparison. The success of the two-group method depends considerably on the quality of averaging of the multi-group constants in the resonance-energy range. The two-group method was verified by numerical calculations and by comparing the results with those of a 15-group approximation for a homogeneous spherical system with enriched uranium and hydrocarbon moderator and reflector. The 15-group method yields  $R_{cr} = 38.0$  cm and  $k_{eff} = 1.007$ , the two-group method  $R_{cr} = 37.8$  cm and  $k_{eff} = 1$ ; these results show that both methods can be considered as equivalent. X

Card 2/2

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S/058/62/000/004/034/160  
A058/A101

AUTHORS: Yurova, L., Polyakov, A. A., Stepanov, S. B., Troyanskiy, V. B.

TITLE: Neutron diffusion length and moderation length in diphenyl and monoisopropyl diphenyl

PERIODICAL: Referativnyy zhurnal, Fizika, no. 4, 1962, 61, abstract 4B461  
(V sb. "Neytron. fizika". Moscow, Gosatomizdat, 1961, 192 - 197)

TEXT: The diffusion length of thermal neutrons was measured in diphenyl at  $t = 35^\circ$ ,  $85^\circ$  and  $130^\circ\text{C}$  and in monoisopropyl diphenyl at  $t = 20^\circ\text{C}$ . Deviation from operating temperature did not exceed  $\pm 2^\circ$ . The following values of  $L$  were obtained:  $4.77 \pm 0.14$  cm,  $4.93 \pm 0.08$  cm and  $5.47 \pm 0.04$  cm for diphenyl and  $3.34 \pm 0.31$  cm for monoisopropyl diphenyl. The mean value of the transport cross section of hydrogen in noncrystalline matter that was calculated on the basis of these data and reduced to  $t = 20^\circ\text{C}$  turned out to equal  $\sigma_{tr}^H = 35.7 \pm 1.2$  barn. The age of fission neutrons  $\tau_{fis}$  and of neutrons from a Po-Be source  $\tau_{sou}$  was also measured in solid diphenyl ( $t = 35^\circ\text{C}$ ) up to indium resonance. Measurements were carried out in a cylinder 40 cm in diameter and 90 cm in height placed in the thermal

Card 1/2

Neutron diffusion length and...

S/058/62/000/004/034/160  
A058/A101

column of a reactor, the source of fission neutrons being an enriched uranium target-converter. Control measurements with the Po-Be source, carried out at different experimental geometries and cylinder sizes, showed that the distribution of resonance neutrons in diphenyl surrounded by graphite corresponds to the distribution in an infinite medium. It was found that  $\tau_{fis} = 54.2 \pm 2.5 \text{ cm}^2$  and  $\tau_{sou} = 106.5 \pm 6.8 \text{ cm}^2$ . At the same time, measured values of neutron age appreciably exceed calculated values.

S. Zaritskiy

[Abstracter's note: Complete translation]

Card 2/2



ACC NR: AT7005806

(A, N)

SOURCE CODE: UR/0000/66/000/000/0076/0084

AUTHORS: Troyanskiy, V. B.; Smelyanskaya, A. V.

ORG: none

TITLE: Solution of one-group critical problems by the wave method

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Inzhenerno-fizicheskiye voprosy yadernykh reaktorov (Problems of nuclear reactor engineering and physics); sbornik statey. Moscow, Atomizdat, 1966, 78-84

TOPIC TAGS: nuclear reactor, transport equation, breeder reactor

ABSTRACT: The critical dimensions of reactors of several different geometries are found using the general solution of the one-group transport kinetic equation in the breeder material. The Fourier integral expansion of the general solution is of the form

$$\varphi_1(q, \Omega) = \frac{A_1 c_1}{8\pi} \int_{-\infty}^{\infty} dx' e^{ix'q} \frac{\delta(x' - x_1) + \delta(x' + x_1)}{1 + ix'\Omega},$$

where  $x_1 = \frac{x}{\Sigma_{tr}}$  is the dimensionless material parameter of the breeder material determined by the characteristic equation

$$\frac{x_1}{\arctg x_1} = c_1; \quad c_1 = \frac{\nu_f \Sigma_f + \Sigma_a (1 - \bar{\mu})}{\Sigma_{tr}} > 1.$$

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ACC NR: AT7005806

$Q = r \sum_{\Omega}$  is the dimensionless radius vector, and  $x' = \frac{a}{\sum_{\Omega}}$  is the dimensionless vector in the Fourier-transformed space. The critical dimension of the bare reactor  $R = R_0 \sum_{\Omega}$  is found by obtaining the explicit form of the function  $\varphi(R, \Omega)$ . For  $x_1 \ll 1$ , the critical dimensions of a spherical and an infinite cylindrical reactor are given by

$$1 - \frac{x_1 R}{\lg x_1 R} = \frac{3R}{2}$$

and

$$\frac{J_1(x_1 R)}{J_0(x_1 R)} = \frac{3}{2x_1}$$

respectively. Numerical results for a range of values of  $\alpha_1$  using these equations are presented and compared with those obtained from the more complicated exact solutions and from solutions obtained elsewhere by various methods. Solutions are also obtained for a finite cylindrical reactor and for a plane reactor with a reflector. Orig. art. has: 33 equations, 1 figure, and 2 tables.

SUB CODE: 18/ SUBM DATE: none/ ORIG REF: 002/ OTH REF: 001

Card 2/2

TROYANOVSKIY, V.I.

Problems of the optimal capacity of a specialized foundry.  
Lit. proizv. no.11:8-9 N '64. (MIRA 18:8)

SECRET (S) (U) (F) (C) (E) (G) (H) (I) (J) (K) (L) (M) (N) (O) (P) (Q) (R) (S) (T) (U) (V) (W) (X) (Y) (Z) (AA) (AB) (AC) (AD) (AE) (AF) (AG) (AH) (AI) (AJ) (AK) (AL) (AM) (AN) (AO) (AP) (AQ) (AR) (AS) (AT) (AU) (AV) (AW) (AX) (AY) (AZ) (BA) (BB) (BC) (BD) (BE) (BF) (BG) (BH) (BI) (BJ) (BK) (BL) (BM) (BN) (BO) (BP) (BQ) (BR) (BS) (BT) (BU) (BV) (BW) (BX) (BY) (BZ) (CA) (CB) (CC) (CD) (CE) (CF) (CG) (CH) (CI) (CJ) (CK) (CL) (CM) (CN) (CO) (CP) (CQ) (CR) (CS) (CT) (CU) (CV) (CW) (CX) (CY) (CZ) (DA) (DB) (DC) (DD) (DE) (DF) (DG) (DH) (DI) (DJ) (DK) (DL) (DM) (DN) (DO) (DP) (DQ) (DR) (DS) (DT) (DU) (DV) (DW) (DX) (DY) (DZ) (EA) (EB) (EC) (ED) (EE) (EF) (EG) (EH) (EI) (EJ) (EK) (EL) (EM) (EN) (EO) (EP) (EQ) (ER) (ES) (ET) (EU) (EV) (EW) (EX) (EY) (EZ) (FA) (FB) (FC) (FD) (FE) (FF) (FG) (FH) (FI) (FJ) (FK) (FL) (FM) (FN) (FO) (FP) (FQ) (FR) (FS) (FT) (FU) (FV) (FW) (FX) (FY) (FZ) (GA) (GB) (GC) (GD) (GE) (GF) (GG) (GH) (GI) (GJ) (GK) (GL) (GM) (GN) (GO) (GP) (GQ) (GR) (GS) (GT) (GU) (GV) (GW) (GX) (GY) (GZ) (HA) (HB) (HC) (HD) (HE) (HF) (HG) (HH) (HI) (HJ) (HK) (HL) (HM) (HN) (HO) (HP) (HQ) (HR) (HS) (HT) (HU) (HV) (HW) (HX) (HY) (HZ) (IA) (IB) (IC) (ID) (IE) (IF) (IG) (IH) (II) (IJ) (IK) (IL) (IM) (IN) (IO) (IP) (IQ) (IR) (IS) (IT) (IU) (IV) (IW) (IX) (IY) (IZ) (JA) (JB) (JC) (JD) (JE) (JF) (JG) (JH) (JI) (JJ) (JK) (JL) (JM) (JN) (JO) (JP) (JQ) (JR) (JS) (JT) (JU) (JV) (JW) (JX) (JY) (JZ) (KA) (KB) (KC) (KD) (KE) (KF) (KG) (KH) (KI) (KJ) (KK) (KL) (KM) (KN) (KO) (KP) (KQ) (KR) (KS) (KT) (KU) (KV) (KW) (KX) (KY) (KZ) (LA) (LB) (LC) (LD) (LE) (LF) (LG) (LH) (LI) (LJ) (LK) (LL) (LM) (LN) (LO) (LP) (LQ) (LR) (LS) (LT) (LU) (LV) (LW) (LX) (LY) (LZ) (MA) (MB) (MC) (MD) (ME) (MF) (MG) (MH) (MI) (MJ) (MK) (ML) (MM) (MN) (MO) (MP) (MQ) (MR) (MS) (MT) (MU) (MV) (MW) (MX) (MY) (MZ) (NA) (NB) (NC) (ND) (NE) (NF) (NG) (NH) (NI) (NJ) (NK) (NL) (NM) (NN) (NO) (NP) (NQ) (NR) (NS) (NT) (NU) (NV) (NW) (NX) (NY) (NZ) (OA) (OB) (OC) (OD) (OE) (OF) (OG) (OH) (OI) (OJ) (OK) (OL) (OM) (ON) (OO) (OP) (OQ) (OR) (OS) (OT) (OU) (OV) (OW) (OX) (OY) (OZ) (PA) (PB) (PC) (PD) (PE) (PF) (PG) (PH) (PI) (PJ) (PK) (PL) (PM) (PN) (PO) (PP) (PQ) (PR) (PS) (PT) (PU) (PV) (PW) (PX) (PY) (PZ) (QA) (QB) (QC) (QD) (QE) (QF) (QG) (QH) (QI) (QJ) (QK) (QL) (QM) (QN) (QO) (QP) (QQ) (QR) (QS) (QT) (QU) (QV) (QW) (QX) (QY) (QZ) (RA) (RB) (RC) (RD) (RE) (RF) (RG) (RH) (RI) (RJ) (RK) (RL) (RM) (RN) (RO) (RP) (RQ) (RR) (RS) (RT) (RU) (RV) (RW) (RX) (RY) (RZ) (SA) (SB) (SC) (SD) (SE) (SF) (SG) (SH) (SI) (SJ) (SK) (SL) (SM) (SN) (SO) (SP) (SQ) (SR) (SS) (ST) (SU) (SV) (SW) (SX) (SY) (SZ) (TA) (TB) (TC) (TD) (TE) (TF) (TG) (TH) (TI) (TJ) (TK) (TL) (TM) (TN) (TO) (TP) (TQ) (TR) (TS) (TT) (TU) (TV) (TW) (TX) (TY) (TZ) (UA) (UB) (UC) (UD) (UE) (UF) (UG) (UH) (UI) (UJ) (UK) (UL) (UM) (UN) (UO) (UP) (UQ) (UR) (US) (UT) (UU) (UV) (UW) (UX) (UY) (UZ) (VA) (VB) (VC) (VD) (VE) (VF) (VG) (VH) (VI) (VJ) (VK) (VL) (VM) (VN) (VO) (VP) (VQ) (VR) (VS) (VT) (VU) (VV) (VW) (VX) (VY) (VZ) (WA) (WB) (WC) (WD) (WE) (WF) (WG) (WH) (WI) (WJ) (WK) (WL) (WM) (WN) (WO) (WP) (WQ) (WR) (WS) (WT) (WU) (WV) (WW) (WX) (WY) (WZ) (XA) (XB) (XC) (XD) (XE) (XF) (XG) (XH) (XI) (XJ) (XK) (XL) (XM) (XN) (XO) (XP) (XQ) (XR) (XS) (XT) (XU) (XV) (XW) (XX) (XY) (XZ) (YA) (YB) (YC) (YD) (YE) (YF) (YG) (YH) (YI) (YJ) (YK) (YL) (YM) (YN) (YO) (YP) (YQ) (YR) (YS) (YT) (YU) (YV) (YW) (YX) (YZ) (ZA) (ZB) (ZC) (ZD) (ZE) (ZF) (ZG) (ZH) (ZI) (ZJ) (ZK) (ZL) (ZM) (ZN) (ZO) (ZP) (ZQ) (ZR) (ZS) (ZT) (ZU) (ZV) (ZW) (ZX) (ZY) (ZZ)

Being reduction forward in Washington. Washington  
no. 1844. My-Je 1955. (MIRA 1846)

TROYANOVSKIY, V.I., inzh.

Reducing labor consumption in producing cast billets. Mashino-  
stroenie no.1:57-58 Ja-F '65. (MIRA 18:1)

SOV/124-57-4-4135

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 4, p 41 (USSR)

AUTHOR: Troyanovskiy, V. N.

TITLE: Design and Application of Air-conditioning Systems With Concentrated Air Supply (Raschet i prakticheskoye primeneniye sistem s sosredotochennoy podachey vozdukha)

PERIODICAL: Tr. nauch. sessii Vses. n.-i. in-ta okhrany truda, 1955, Nr 4, pp 43-82

ABSTRACT: The author recommends that for a full-flow ventilation of industrial establishments the distribution of the fresh air (or warmed-up air during the cold season) be effected by means of a single or several jets without the aid of air-distribution ducts. A saving is thereby achieved of sheet metal and man-hours expended for the installation of the air-distribution ducts, and a highly-efficient heating-and-ventilating system is achieved. The author considers that one advantage of the suggested system is the effective mixing that takes place within the confines of the space, a mixing which results in a vertical equalization of air temperatures and diminishes the heat losses through the roof. Data, based on generalized experimental investigations by the

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SOV/124-57-4-4135

Design and Application of Air-conditioning Systems With Concentrated Air Supply

author, are presented for the design of systems of concentrated air supply. Bibliography: 5 references.

I. A. Shepelev

Card 2/2

TROYANSKIY, V.T.

Use of extended hodographs of waves reflected from subsalt boundaries with a view to studying the shape of the nucleus of salt domes. Razved. geofiz. no.1:5-17 '64. (MIRA 18:7)



POSSIBILITY  
TROYANSKIY, V.T.

Possibility of studying intrusive bodies by seismic prospecting methods. Razved.i okh.nedr 23 no.2:32-41 P '57. (MLRA 10:5)

1.TSentral'nyy geofizicheskiy trest.  
(Rocks, igneous)  
(Prospecting--Geophysical methods)

SOV/132-88-6-8/15

7  
3(5)

AUTHOR:

Troyanskiy, V.T.

TITLE:

Tracing the Main Northern Overthrust of the Eastern Donbass Area by Refracted Waves

PERIODICAL:

Razvedka i okhrana nedr, 1959, Nr 3, PP 36-45, (U333)

ABSTRACT:

The article deals with tracing the Main Northern Overthrust (called so by A.Ya. Dubinskiy) which runs for as long as 180 km across the Eastern Donbass area from Ivanovka to the Mikhne-Gantov farm on the west bank of the Trimiynskoye Reservoir. It is believed that the MNO separating the Donets folding system from the semi-plain-type system of the Donets synclinal runs as far as the Caspian Sea. The MNO was first discovered by drilling and seismic work in that area. The seismic studies were carried out by the Tsentrallyy geofizicheskiy trust (Central Geophysical Trust) between the Tatsinskaya RR station and the Trimiynskoye Reservoir during 1955-56. Of the various seismic methods, the refracted wave method or the KMFV, was chiefly used, with the aid of an SS-26-51-type seismic station. Seismic

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30V/132-59-3-8/15

Tracing the Main Northern Overthrust of the Eastern Donbass Area by Refracted Waves

observations were carried out in both longitudinal and transverse directions, each transverse profile being 2,250 m in length. The article then describes 4 different cases of seismic observations illustrated by diagrams and seismic graphs and concludes as follows: 1) the longitudinal profiles indicate the general position of the overthrust, the build-up of its sides, and the age of the rocks of which the sides are composed. The overthrust line as viewed from above can be traced with an accuracy of up to 500-800 m; 2) the transverse profiles are chiefly used for tracing the overthrust line whereby the latter is determined far more accurately than by longitudinal profiles. The distance proposed between two transverse profiles is 1.5 to 2 km which can be reduced to as little as 800 to 1,000 m in case both sides are composed of carbonaceous formations. There are 3 sets of diagrams, 1 graph, 2 sets of graphs, and 6 Soviet references.

ASSOCIATION: Vostchno-Donbasskaya geofizicheskaya ekspeditsiya (East  
Card 2/2 Donbass Geophysical Expedition)

ACCESSION NR: AT4002126

S/2702/63/000/014/0060/0073

AUTHOR: Troyanskiy, V. T.; Komissarchik, B. S.

TITLE: The use of the refracted wave method for studying the basement surface relief under conditions prevailing in southern Rostov Oblast and the western Kalmyk ASSR

SOURCE: USSR. Glavnoye upravleniye geologii i okhrany\* nedr. Geofizicheskaya razvedka, no. 14, 1963, 60-73

TOPIC TAGS: refracted wave method, basement topography, tectonic regionalization, boundary velocity variation, refracted wave correlation, seismic discontinuity

ABSTRACT: Systematic seismic investigations using the refracted wave method have been carried out since 1955 in southern Rostov Oblast and the western Kalmyk ASSR. Seismic and electric logging established the presence of an ancient weathered zone in the upper part of the basement (100—3500 m deep). Waves associated with the true basement surface could not be distinguished from first arrivals with the medium- or low-frequency apparatus used in the exploration, and the

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ACCESSION NR: AT4002126

refracted method was useful only in detecting the bottom of the weathered zone of the basement rocks. Velocities obtained by determining effective velocities from the travel-time curves of reflected waves or seismic logging data were generally used to define the refracting interface. Results of depth determinations obtained from profiles showing borehole data were generalized to compile the sketch maps of the depths of the basement surface shown in Fig. 1 of the Enclosure, on which major first- and second-order structures can be distinguished. Orig. art. has: 9 figures and 1 table.

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 26Dec63

ENCL: 01

SUB CODE: AS

NO REF SOV: 004

OTHER: 000

Card 2132

ACC NR: AR7001771

SOURCE CODE: UR/0169/66/000/010/D018/D018

AUTHOR: Troyanskiy, V. T.; Komissarchik, B. S.

TITLE: An experiment in the use of the refraction correlation method in the study of the geological formation of the south western part of the Caspian depression

SOURCE: Ref. zh. Geofizika, Abs. 10D110

REF SOURCE: Tr. Nizhne-Volzhsk. n. -i. in-t geol. i geofiz. vyp. 3, 1965, 188-195

TOPIC TAGS: geology, geologic exploration, geologic survey

ABSTRACT: The methodology and conditions for using the refraction correlation method (KMPV) in the Kalmyk Autonomous SSR and the Astrakhan Oblast in 1961—1963 are given. The basic recorded waves and their nature are described. Most of the waves are refracted and are not head waves. Corrections were generally introduced in the refraction; otherwise the horizons in the above-soil thickness were deepened by 100—200 m. No corrections were made in the

Card 1/2

UDC: 550.834.3

ACC NR: AR7001771

hodographs connected with the surface of the soil, since they were found to be small. Reflected waves, being of greater intensity than refracted waves, make it possible to study the velocity profile higher than the basic interface. A method of selecting velocities and constructing a profile is given. The supposition concerning the presence of a velocity gradient in the salt formation (changes in velocity from 4.5 to 4.9 km/sec) made it possible to obtain the best coincidence of theoretical hodographs with experimental ones, and likewise of data on the method of reflected waves (MOV) and on that of the method of refraction correlation. The peculiarities of the waves during examination of the lateral surfaces of salt bodies and the character of the diffracted waves in places where outcrops of salt stocks occur in the high lying horizons are examined. Data on the thickness of salt formations within domes ( $\sim 7$  km) and on the depth of the sub-salt horizon (from 6.5 to 8 km) are presented. The surface of the crystalline basement in the central part of the Caspian depression (village of Vyazavka) is examined at depths below 15 km. A method for further research is recommended. A. Volin. [Translation of abstract] [GC]

SUB CODE: 08/

Card 2/2

ACC NR: AT7004126

SOURCE CODE: UR/3152/66/000/013/0003/0012

AUTHOR: Troyanskiy, V. T.

ORG: None

TITLE: Interpretation of surface hodographs of waves reflected from a subsalt horizon in order to study the lateral surface of the core of a salt dome

SOURCE: Razvedochnaya geofizika, no. 13, 1966, 3-12

TOPIC TAGS: geology, geologic exploration, hodograph, seismic wave, wave propagation, shock wave reflection, underground explosion, wave mechanics

ABSTRACT: Previously described methods for interpreting linear extended hodographs of waves reflected from subsalt horizons for the purpose of studying the configuration of the lateral boundaries of a salt dome have required that the profile of observations be located strictly perpendicular to the strike of the lateral surface of the salt mass, so that no lateral inclination of seismic waves will occur. A method for observing and interpreting which places no strict requirement on the location of profiles is described. The method was applied in 1963, on one limb of the Sarpinsk salt deposit, located in the southwestern Caspian Sea area. Interpretation of the surface wave was performed by the orthogonal profiles method. Velocity in the overlying medium was determined from data produced in reflected wave operations, the

Card 1/2



ACC NR: AT7004126

depth of the salt beneath the explosion point being determined by the refracted wave method. Although no test borings have been made to determine the accuracy of this work, the relief maps made of the salt surface are similar to maps available for the surface of the upper Cretaceous deposits in the area, indicating general reliability of the surface layer constructions. Orig. art. has: 16 formulas, and 6 figures.

SUB CODE: 08/SUBM DATE: None/ORIG REF: 005

Card 2/2

1. 1000-1-07 1000(1) 1000  
 1000-1-07 1000(1) 1000

16  
 SOURCE CODE: 10/04/13/66/000/015/0000/0000

Authors: Volynskiy, B. Ye.; Lomomnikov, V. S.; Ayzman, Yu. A.; Sokolinskiy, Ye. A.;  
 Kuznetsov, A. A.; Kuznetsov, A. I.; Podorov, V. N.; Ivanov, A. E.; Malinskiy, S. A.;  
Troyanovskiy, V. V.; Ad'ik, V. Kh.; Vysotskiy, Yu. A.; Zamskiy, V. M.; Bystrov, V. V.;  
 Kuznetsov, V. S.; Gromovskiy, I. V.; Yevzerov, D. A.; Germanov, Yu. G.; Makuimov, N. P.;  
 Gromovskiy, M. A.; Pishchulin, V. V.

Q. G. none

TITLE: Seismic station. Class 42, No. 104466 /announced by "Neftepribor" Factory  
 of the Instrument Manufacture Administration of Mosgorsovnarkhoz (Zavod "Neftepribor"  
 Upravleniya priborostroyeniya Mosgorsovnarkhoza)/

SOURCE: Izobret prom obraz tov zn, no. 15, 1966, 94

TOPIC TAGS: seismologic station, seismologic instrument

ABSTRACT: This Author Certificate presents a seismic station containing a seismic  
 signal detector, a recording amplifier unit, an oscillograph, a magnetic drum  
 recorder, a channel reproduction unit, a control unit, a reproduction amplifier, a  
 multichannel borehole probe, a drum with photographic paper, a retransmitting unit,  
 and a power supply. To increase the reliability when transferring from operation with  
 the method of reflected waves to the method of refracted waves, a filter unit is  
 connected between the first and second stages of the recording amplifier unit. A

Cord 1/2

UDC: 550.340:19

L 10062-67

ACC NR: AP6029933

modulator-demodulator unit and a reel type magnetic recorder are connected in series to the output of the recording amplifier unit. For operation with the method of refracted waves, the filter unit has frequency cutoffs of 7--30 hz, and for operation at sea--frequency cutoffs of 20--50 hz. To increase the reliability of the recorded data with operation by the method of regulated directional reception, a switching unit for the channels to be summed, a static correction unit, and a summing unit are connected in series between the magnetic drum recorder and the reproduction amplifier. To increase the reliability when transferring from operation with the method of reflected waves to seismic logging, a frequency selection unit is connected between the multichannel borehole probe and the magnetic drum recorder. To improve the quality of the recorded material, an electron beam unit for introducing static and dynamic corrections is connected between the reproduction amplifier and the drum with photographic paper.

SUB CODE: 00/ SUBM DATE: 05May65

Card 2/2

TROYANOVSKIY, V.V.

LEVINSON, Nikolay Grigor'yevich [deceased]; GEYDYSH, S.S., inzh., retsenzent;  
GINTSBURG, M.V., inzh., retsenzent; LUGOVOY, M.V., inzh., retsenzent;  
REZNIK, I.S., inzh., retsenzent; TROYANOVSKIY, V.V., inzh., retsenzent;  
TIMOFEYEVSKIY, T.P., inzh., red.; BARYKOVA, G.I., red.izd-va; MODEL',  
B.I., tekhn.red.

[Mechanization of management control (management technology)]  
Mekhanizatsia upravlencheskogo truda (orgatekhnika). Moskva,  
Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry. Vol.1. 1958.  
386 p. (MIRA 12:2)

(Automatic control) (Industrial management)

TROYANSKIY, Ye. A.

"Thermal Fatigue of Metals in Steam Boilers." Sub 29 Jun 51, Moscow Order of  
Lenin Power Engineering Inst imeni V. I. Molotov

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55

**"APPROVED FOR RELEASE: 03/14/2001**

**CIA-RDP86-00513R001756810006-7**

**APPROVED FOR RELEASE: 03/14/2001**

**CIA-RDP86-00513R001756810006-7"**

Troyanskiy, E. A.

USSR/Engineering - Steel pipes

Card 1/1 Pub. 128 - 5/32

Authors : Leleev, N. S.; Troyanskiy, E. A.; Zalkind, E. M.; Kats, Sh. N.; Zakharov, A. A.; and Kachanov, L. M.

Title : Comments and critical review of the article, "A Problem Concerning the Strength of Steel Pipes for High-Pressure Boilers"

Periodical : Vest. mash. 11, 24-27, Nov 1954

Abstract : A discussion and rebuttal of the article, "A Problem Concerning the Strength of Steel Pipes for High-Pressure Boilers", written by N. S. Leleev, and E. A. Troyanskiy, is presented. Graphs; table; diagram.

Institution : ...

Submitted : ...

PROYANSKIY, E. A.

USSR/Engineering - Welding

Card : 1/1 Pub. 128 - 17/32

Authors : Leleev, N. S. Troyanskiy, E. A. and Korikovskiy, I. K.

Title : Investigating the strength of welded T-joints

Periodical : Vest. mash. 34/7, 57 - 61, July 1954

Abstract : The strength of welded T-joints, and pipes, was investigated. The tests were conducted by the Department of Boiler Construction of the V. M. Molotov Institute of Power Engineering. Chemical composition and mechanical characteristics of steel, are indicated, and mathematical formulas are given to determine the strength. Four references. Diagrams; table.

Institution : ...

Submitted : ...



AID P - 1323

Subject : USSR/Engineering  
Card 1/1 Pub. 110-a - 5/19  
Author : Troyanskiy, Ye. A., Kand. of Tech. Sci.  
Title : Experimental verification of formulae for the strength  
calculation of cylindrical vessels  
Periodical : Teploenergetika, 2, 24-26, F 1955  
Abstract : Data are presented for the determination of ultimate  
strength conditions as measured by means of tensimeters  
as applied to cylindrical vessels (boilers). The hydro-  
compressor and tensiometer equipment for those experi-  
ments was designed by the Central Scientific Research  
Institute of Heavy Machine Building and Metalworking  
(TsNII TMASH). Tables, charts, references: 3 Russian  
(1950-1954) and 1 non-Russian (1953).  
Institution : Moscow Power Engineering Institute  
Submitted : No date

~~TROYANSKIY~~, Yevgeniy Aleksandrovich; IVANOVA, V.S., redaktor; VORONIN, K.P.,  
tekhnicheskiiy redaktor

[Metals for boiler construction and calculation of the strength of  
boilers] Metally kotlostroeniia i raschet prochnosti detalei  
parovykh kotlov. Moskva, Gos. energ. izd-vo, 1956. 192 p.  
(Boilers) (MIRA 10:1)

VUKALOVICH, M.P.; GROMOV, N.K.; IMERITSKIY, M.I.; KARTOSHKIN,  
M.D.; KOBRINA, R.B.; LEONOVA, A.Ya.; TROYANSKIY, Ye.A.;  
MANUYLOV, P.N.; SHUKHER, S.M., red.

[Heat engineer's handbook] Spravochnaia knizhka teplo-  
tekhnika. Izd.2., perer. i dop. Moskva, Energiia, 1964.  
287 p. (MIRA 17:12)

TROYANSKIY, Ye.A.; SOLOV'YEVA, Yu.P.

Propagation of plastic deformation. Metalloved. i term. obr. met.  
no.7:11-13 J1 '64. (MIRA 17:13)

1. Moskovskiy energeticheskiy institut.

TROYANSKIY, Yevgeniy Aleksandrovich; MOZHAROV, N.A., red.

[Boiler metals and the calculation of the strength of  
boiler component:] Metally kotlostroeniia i raschet proch-  
nosti detalei parovykh kotlov. Izd.2., perer. Moskva, Izd-  
vo "Energiia," 1964. 191 p. (MIRA 17:7)

KOVALEV, A.P., doktor tekhn. nauk, prof.; LELEYEV, N.S.; KHZMALYAN,  
D.M.; MAKSIMOV, V.M.; PANASENKO, M.D.; KAGAN, Ya.A.; MODEL',  
Z.G.; TROYANSKIY, Ye.A.; VILENSKIY, T.V.; RYZHKIN, V.Ya.;  
MOZHAROV, N.A.

[Atlas of boiler systems (supplement)] Atlas kotel'nykh  
agregatov (dopolnenie). [by] A.P.Kovalev i dr. Moskva,  
Gosenergoizdat, 1963. 22 fold. (MIRA 17:3)

TROYANSKIY, Ye.A., kand. tekhn. nauk; KORIKOVSKIY, I.K., inzh.;  
SOLOV'YEVA, Yu.P., inzh.

Methods for approximate calculation of welded T-pipes.  
Teploenergetika 10 no.8:43-46 Ag '63. (MIRA 16:8)

1. Moskovskiy energeticheskiy institut.  
(Steampipes—Welding)

TROYANSKIY, Ye.A., kand.tekhn.nauk

Mechanism of deformation at yield points. Metalloved. 1 term.  
obr. met. no.9:40-42 S '62. (MIRA 16:5)

1. Moskovskiy energeticheskiy institut.  
(Deformation (Mechanics))



TROYANSKIY, Ye.A.; SOLOV'YEVA, Yu.P.

Nature of the yield strength area. Fiz. met. i metalloved. 12  
no.5:758-759 II '61. (MIRA 14:12)

1. Moskovskiy energeticheskiy institut.  
(Steel--Testing)

17.82.94

S/122/62/000/002/005/006  
E193/E383

AUTHOR: Troyanskiy, Ye.A., Candidate of Technical Sciences  
TITLE: Mechanism of deformation within the yield-ledge range  
PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov,  
no. 9, 1962, 40 - 42

TEXT: An attempt is made to prove that the presence of the yield point (or, rather, yield range) on the strain/stress diagram cannot be explained in terms of the Cottrell mechanism, which entails movement of dislocations, pulled away from their "atmospheres" of foreign atoms. The mechanism of the phenomenon of yield, postulated by Cottrell, would be valid if plastic deformation were to take place simultaneously in the entire volume of the test piece. In practice, plastic deformation takes place first near the shoulder of a test piece (i.e. in the region of stress concentration) and then spreads towards the centre of its gauge length. This was demonstrated experimentally by the present author on a sample of technical iron. A series of microhardness indentations was made on the surface of a standard

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Mechanism of deformation ....

S/129/62/000/009/005/000  
E193/E383

cylindrical tensile test piece, which was then repeatedly loaded, the distance between the indentations being measured after each consecutive test. Apart from proving that deformation did, in fact, start at the shoulder of the test piece, it was shown that whereas deformation within the yield ledge amounted to 1%, that taking place immediately beyond the yield ledge was 0.5 - 0.3%.

ASSOCIATION: Moskovskiy energeticheskii institut  
(Moscow Power-engineering Institute)

Card 2/2

TROYANSKIY, Ye. A.

ENGINEER OF LENIN ORDER OF MERIT V. I. POLYOT V

TROYANSKIY, Ye. A. -- "HEAT FATIGUE OF METALS IN STEAM BOILERS," 27 JUN 1952, 1952  
ORDER OF LENIN POWER ENGINEERING INST. (HEAT V. I. POLYOT V (DECEASED FOR THE 1952)  
OF CANDIDATE IN TECHNICAL SCIENCES")

CC: VECHERNAYA MOSKVA, JANUARY-DECEMBER 1952

MEYKLYAR, Mikhail Vladimirovich; VUKALOVICH, M.P., red.; KIRILLIN, V.A., red.;  
KOMAROV, L.P., red.; TYURIN, P.Ya., red.; TROYANSKIY, Ye.A., red.;  
BORUNOV, N.I., tekhn. red.

[Engineering performance of the metal of a steam boiler] Kak ra-  
botaet metall parovogo kotla. Moskva, Gos. energ. izd-vo, 1961.  
93 p. (Biblioteka teplotekhnika, no.8) (MIRA 14:8)  
(Boilers) (Metals)

S/184/60/000/005/017/021/XX  
A104/A026

AUTHORS: Grebenkin, V.G., Engineer; Troyanskiy, Ye.A., Candidate of Technical Sciences

TITLE: Experimental Investigation Into the Endurance of Bent Pipes

PERIODICAL: Khimicheskoye mashinostroyeniye, 1960, No. 5, pp. 30 - 33

TEXT: A brief description on the characteristics of bent pipes is given. As it has been assumed that the strength of pipes is lower in the bent area, wall thickness calculations for straight sections are adapted, i.e., increased according to a Gosgortekhnadzor formula. The Babcock and Wilcox Company carried out hydraulic tests on bent sections of pipes. Fractures occurred on the inner wall of the buckling which led to the conclusion that maximum internal pressure stresses are concentrated in this area. In order to verify this theory and to establish the actual character of the pressure distribution, the authors carried out endurance tests on 38 and 76-mm diameter bent steel pipes, which were subjected to internal pressure. The testing equipment consisted of a 600-atm pump and a tensiometer. The classification of the endurance coefficient was based on the pressure determined according to deformation curves obtained by tensiometric data. They show that maximum pressure is concentrated on the outside wall of

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S/184/60/000/005/017/021/XX  
A104/A026

Experimental Investigation Into the Endurance of Bent Pipes

the buckling, which is in contrast to the above-mentioned theory. Results of tests proved that most fractures occur in the straight or transition parts of pipes. Additional tests were carried out on pipes of various buckling radius. To ensure that higher endurance of the bent section was not due to hammer hardening during buckling, tests included samples which were subjected to annealing and it was proved that hammer hardening had no reinforcing effect. It was further presumed that fractures in the transition region might be due to increased pressure strain. Tensiometric check revealed no strain increases. Tests in regard of the limited state of bent pipes were carried out by strain gauges and indicators. Based on these facts it is recommended that endurance tests on pipes should be carried out according to breaking rather than specific pressures. Pressures at which fractures of bent pipes occur are either close to or higher than the calculated breaking pressure of straight pipes. Therefore, it is not necessary to increase the wall thickness estimated for straight pipes in respect of bent pipes of any radius, with the exception of pipes operating under creeping conditions. There are 6 figures and 3 tables.

Card 2/2

GRUBENKIN, V.G., inzh.; TROYANSKIY, Ye.A., kand.tekhn.nauk

Experimental investigation of the strength of bent pipes. Khim.  
mash. no.5:30-33 S-O '60. (MIRA 13:9)  
(Pipe bending)



SOV/96-58-5-14/27

AUTHOR: Antikayn, P.A., Engineer and ~~Troyanskiy, Ye.A.~~,  
Candidate of Technical Sciences

TITLE: The Strength of Pipe Bands (O prochnosti izgibov trub)

PERIODICAL: Teploenergetika, 1958, nr 5, pp 63 - 65 (USSR)

ABSTRACT: There is some doubt about the strength of bends in steam piping as compared with straight sections. The English firm of Babcock and Wilcox has done some work on this subject. The authors used a rig consisting of a hydraulic compressor that sets up a pressure of 6,000 atm., a protective chamber and strain-gauge equipment for testing bends in pipes made of steel St20. The strain-gauges were 10 mm long installed and measured circumferential and axial stresses at the positions 1 and 2 in Figure 1.

The dimensions of the specimens, the main mechanical properties of the material and the test results are tabulated. Three of the samples were produced by hot bending and the rest by cold bending. The wall thicknesses were determined by making a twin sample which was cut. The table also shows the heat-treatment received by the specimens. The determination of the limiting pressure in the bend is shown in figure 2. The ratio between the limiting pressures for straight sections of pipe and for bends shows how much sooner the bend achieves a plastic

Card1/2

The Strength of Pipe Bends

SOV/96-58-5-14/27

condition.

Compared to the experimental data, the formula of Nemec gives high results for thick-walled tubes. This may be partly because strain-gauges of 10 mm were used on samples of diameter 35 - 44 mm, so that the stress determined was the mean on an area of 10 x 10 mm. Moreover, the actual outer thin wall of the bend has less curvature in the direction perpendicular to the axis of the tube than has the inner thick wall. Nevertheless, the main reason for discrepancy is that the formula does not allow for the non-uniform stress distribution over the thickness of the pipe walls. The ultimate pressure for bends with a relative radius greater than 2 is in good agreement with the ultimate pressure for straight sections calculated by a formula which is given. Sharper bends fail at lower pressures. There are 2 figures, 1 table and 6 references, 4 of which are Soviet, 1 English and 1 German.

ASSOCIATION: Moskovskiy energeticheskiy institut (Moscow Power Institute)

Card 2/2

1. Steam pipes--Mechanical properties 2. Pipe bends--Mechanical properties 3. Pipe bends--Test results

LELEYEV, N.S., kand. tekhn. nauk; TROYANSKIY, Ye.A., kand. tekhn. nauk;  
ANTIKAYN, P.A., inzh.

Durability calculation for steam boiler headers. Teploenergetika  
5 no.1:40-44 Ja '58. (MIRA 11:1)

1. Moskovskiy energeticheskiy institut.  
(Boilers)

TROYANSKIY, Ye.A.

Relation between the yield stress and deformation on  
the platform. Izv. vys. ucheb. zav.; fiz. 8 no.4:119-  
123 '65. (MIRA 18:12)

1. Moskovskiy energeticheskiy institut. Submitted January  
13, 1964.

GONCHAROV, B.V., kand.tekhn.nauk; DEMIN, N.Ye., inzh.; SIGAL, S.B.;  
TROYANOVSKIY, Yu.V.

Mounted equipment for placing concrete in foundations. Stroi. i dor.  
mash. 10 no.2:3-4 F '65. (MIRA 18:3)

TROYB, ENG. E. G.

Peat Industry

Results of work performed by the UKB-4 machine in 1952. Torf. prom. 30 no. 1, 1953

9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.

TROYB, E.G., inzhener.

Work of an excavator TEMP-2 with three electric spreading machines. Torf.  
prom. 30 no.5:13-15 My '53. (MLRA 6:5)

1. Losinoye torfopredpriyatiye.

(Excavating machinery)

TSIBIN, I.P.; TROYB, S.G.

Rapid firing of dinas bricks. Ogneupory 29 no.4:153-159 '64.  
(MIRA 17:4)

1. Vostochnyy institut ogneuporov (for TSibin). 2. Ural'skiy  
politekhnicheskiy institut imeni S.M.Kirova (for Troyb).



USSR/Chemical Technology - Chemical Products and Their  
Application. Treatment of Solid Mineral Fuels.

I-7

Abs Jour : Ref Zhur - Khimiya, No 1, 1958, 2497

Author : Troyb, S.G.

Inst :                     

Title : Analytical and Graphic Procedures of Checking the Correct-  
ness of a Complete Analysis of Generator Gas.

Orig Pub : Sb.: Gazifik. tverdogo topliva. M., Gostoptekhnizdat,  
1957, 219-227

Abstract : It is recommended, in carrying out analyses of flue- and  
generator gases, to check the correctness of the analysis  
by using the analytical or the graphic method, taking  
into account the fuel characteristics of the initial fuel  
and also the nature of blast (air or O<sub>2</sub>-air mixture). For  
a number of fuels the values of factors appearing in the  
calculation formulas are listed, and examples are given of  
their use in carrying out the calculations to determine  
correctness of analyses.

Card 1/1

SOV/137-58-9-18580

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 58 (USSR)

AUTHOR: Troyb, S.G.

TITLE: The Control of Chemically Incomplete Combustion and Excess-air Coefficient in Open-hearth Furnaces (O kontrole khimicheskoy nepolnoty goreniya i koeffitsiyenta izbytkha vozdukha v martenovskikh pechakh)

PERIODICAL: V sb.: Staleplavil'n. proiz-vo, Moscow, Metallurgizdat, 1958, pp 253-271

ABSTRACT: Since in the course of open-hearth smelting a portion of the  $O_2$  from the furnace gas is consumed in the process of oxidation of impurities of the metal rather than in combustion of fuel, and since the composition of the products of fuel combustion is obscured by the evolution of  $CO_2$  from carbonates in the charge and products of C oxidation in the molten metal, it is imperative that these factors be taken into account in the computation of the excess-air coefficient on the basis of data obtained in analyses of flue gases. Compared with their values in computations dealing with the initial fuel, the coefficients of equations which are employed in calculations of the excess-air

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SOV/137-58-9-18580

The Control of Chemically Incomplete Combustion (cont.)

coefficient and, particularly, the values of the fuel characteristics ( $\beta$ ) are altered owing to the interaction between the smelted materials and the furnace gases. Thus, the magnitude of  $\beta$  may become negative during the period of decomposition of limestone. Such changes are not identical in various stages of the smelting process and, in general, increase with decreasing specific fuel consumption and increasing amounts of oxidizing impurities contained in the charge. The author gives examples of more precise computations of the coefficients of equations employed for the determination of the amount of excess air. It is demonstrated that the method of determining the degree of incomplete combustion by computational means based upon direct sampling of the contents of  $\text{CO}_2$  and  $\text{O}_2$  in the flue gases alone leads to considerable inaccuracy owing to significant errors in the magnitude of the  $\beta$ . It is suggested that variations in the value of  $\beta$  and of other coefficients be determined experimentally in the course of typical smelting operations and that graphs representing these variations be employed thereafter in order to control the degree of combustion and the amount of excess air. Whenever the blowing is enriched with oxygen, either to improve the fuel consumption or only for the purpose of oxidizing the impurities contained in the metal, a correction specifying the  $\text{N}_2:\text{O}_2$  ratio more precisely must be introduced into the formulae for the determination of the excess air. The methods proposed

Card 2/3

SOV/137-58-9-18580

The Control of Chemically Incomplete Combustion (cont.)

for purposes of obtaining a more precise value of the coefficient employed in the determination of the amount of excess air may also be used in the case of cupola furnaces, roasting kilns, and other furnaces.

L.K.

1. Open hearth furnaces--Performance    2. Chemical impurities--Oxidation    3. Gases  
--Consumption    4. Fuels--Mathematical analysis    5. Oxygen--Applications

Card 3/3